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**Notice of Allowability**

Application No.

09/827,810

Examiner

Tuan A. Vu

Applicant(s)

BYSTEDT ET AL.

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/15/2005.
2. ☒ The allowed claim(s) is/are 11-14, 18-26, 29-34, 36-45 ( now renumbered 1-29).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 5/5/2005
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 20050923.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

### DETAILED ACTION

1. This action is responsive to the Applicant's response filed 7/15/2005.

As indicated in Applicant's response, claim 35 has been added. Claims 11-14, 18-26, 29-35 are pending in the office action.

### EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with attorney John Lastova, Reg # 33149, on 9/22/2005.

The application has been amended as follows.

In the **CLAIMS**,

Amend the claims of 7/15/05 submission with the following:

**Claim 11:**

A computer-implemented method of supervising the execution of one or more program sections written in an object-oriented programming language ~~to detect an object that unexpectedly disrupts execution in the one or more program sections~~, comprising:

- (a) starting a program section and creating an object as an instance of a class;
- (b) storing in a memory ~~one or more~~ a timing information units associated with the created object and an expiration time period associated with the stored ~~one or more~~ information

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units, the ~~one or more~~ information units associated with the created object allowing supervision of execution of the program section;

(c) removing the ~~one or more~~ timing information units stored in the memory when the ~~created~~ associated object is completed;

(d) scanning the memory to identify ~~one or more~~ a timing information units associated with an object that is not completed and for which there has been no activity for a time period longer than the associated expiration time period; and

(e) testing the object associated with the identified timing information unit to determine whether the object is active or not active; and

~~for the identified information unit or units in step (d), triggering an alarm signal to indicate that an unexpected disruption of execution has been detected~~

(f) if the object is active, resetting the associated expiration time period, and if the object is inactive, triggering an alarm signal.

**Claim 14:**

The method according to claim ~~11~~ 13,

wherein the alarm signal indicates that a failure associated with the lost object has been detected.

**Claim 20:**

A computer-implemented method of supervising the execution of one or more program sections written in an object-oriented programming language ~~to detect an object that unexpectedly disrupts execution in the one or more program sections~~, comprising:

(a) starting a program section and creating an object;

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(b) storing ~~one or more~~ a timing information units identifying the created object in a memory, the ~~one or more~~ timing information units associated with the created object allowing supervision of execution of the program section;

(c) removing ~~one or more~~ the timing information units stored in the memory when the created object is completed;

(d) scanning the memory to identify ~~one or more~~ a timing information units associated with an object that is not completed and for which there has been no activity for a time period longer than a predetermined time period; and

(e) ~~sending an alarm signal for each information unit identified in step (d) when the created object is inactive to indicate that an unexpected disruption of execution has been detected; testing to determine if the associated object is active or inactive;~~

(f) for each timing information unit identified in step (d) when the object is inactive, notifying an operator and marking a memory location storing the information unit as free; and

(g) resetting an activity time period for the object when the object is active.

**Claim 21:**

The method in claim 20, further comprising:

(f g) delaying a transmission of the alarm signal for each timing information unit identified in step (d) when the created object is active.

**Claim 22:**

Apparatus for supervising the execution of one or more program sections written in an object-oriented programming language ~~to detect an object that unexpectedly disrupts execution in the one or more program sections,~~ comprising:

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electronic circuitry configured to start a program section and creating an object as an instance of a class; and

a memory for storing ~~one or more~~ a timing information units associated with the created object and an expiration time period associated with the stored ~~one or more~~ timing information units, the ~~one or more~~ timing information units associated with the created object allowing supervision of execution of the program section;

the electronic circuitry further configured to:

remove the ~~one or more~~ timing information units stored in the memory unit when the created object is completed;

scan the memory to identify ~~one or more~~ the timing information units associated with an object that is not completed and for which there has been no activity for a time period longer than the associated expiration time period; and

~~trigger an alarm signal in response to the identified information unit or units to indicate that an unexpected disruption of execution has been detected~~

test to determine if the associated object is active or inactive;

trigger an alarm signal in response to the identified timing information unit if the object is determined to be inactive; and

reset the associated expiration time period if the object is determined to be active.

**Claim 30:**

The apparatus according to claim 22 27, wherein the electronic circuitry is further configured to:

generate a message when a usage volume exceeds a predetermined level.

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**Claim 31:**

An apparatus for supervising the execution of one or more program sections written in an object-oriented programming language, comprising:

electronic circuitry configured to start a program section and creating an object as an instance of a class; and

a memory for storing ~~one or more~~ timing information units identifying the created object;

the electronic circuitry further configured to:

~~terminate the program section;~~

remove ~~one or more~~ the timing information units stored in the memory when the created object is completed or inactive;

scan the memory to identify ~~one or more~~ the timing information units having been stored in the memory for a time period longer than a predetermined time period; and

~~send an alarm signal in response to the identified information unit or units.~~

test the object associated with the identified timing information unit to determine whether the object is active or not active; and

if the object is active, reset an activity time period associated with the object, and if the object is inactive, designate the object as being in a lost state and send an alarm signal.

**Claim 32:**

The apparatus in claim 31, wherein the electronic circuitry is further configured to send the alarm signal only when the ~~one or more~~ information units ~~have~~ has been stored in the memory for a time period longer than the predetermined time period and the created object is inactive.

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**Claim 34:**

A computer-implemented method of automatically ~~detecting one or more objects that unexpectedly disrupt~~ supervising execution in an object-oriented software application, comprising;

- (a) registering an object in a persistent location;
  - (b) specifying an expected expiration time associated with the object indicating an expected expiration time when the object is expected to terminate;
  - (c) deregistering the object, when the object terminates by the expected expiration time, by removing the object from the persistent location;
  - (d) supervising the persistent location to detect an object that has not been deregistered after expiration of the expected expiration time associated with the object;
  - (e) ~~identifying the detected object;~~ and
  - ~~(f) creating a report indicating an operational failure for the identified object~~
- testing the detected object to determine whether the object is active or not active, and if the object is active, resetting the expected expiration time associated with the object; and
- (f) if the object is inactive, creating a report indicating an operational failure for the inactive object.

**Claim 35:** ( Canceled )

**Claim 36** (New):

The method in claim 34, further comprising creating a register key associated with the object.

**Claim 37** (New):

The method in claim 34, further comprising storing one or more contexts in a memory location associated with the created object, and

correlating faults in objects in a distributed environment using the one or more contexts.

**Claim 38 (New):**

The method in claim 11, further comprising creating a register key associated with the object.

**Claim 39 (New):**

The method in claim 11, further comprising storing one or more contexts in a memory location associated with the created object, and

correlating faults in objects in a distributed environment using the one or more contexts.

**Claim 40 (New):**

The method in claim 20, further comprising creating a register key associated with the object.

**Claim 41 (New):**

The method in claim 20, further comprising storing one or more contexts in a memory location associated with the created object, and

correlating faults in objects in a distributed environment using the one or more contexts.

**Claim 42 (New):**

The method in claim 22, wherein the electronic circuitry is further configured to create a register key associated with the object.

**Claim 43 (New):**



The method in claim 22, wherein the electronic circuitry is further configured to store one or more contexts in a memory location associated with the created object and to correlate faults in objects in a distributed environment using the one or more contexts.

**Claim 44 (New):**

The method in claim 31, wherein the electronic circuitry is further configured to create a register key associated with the object.

**Claim 45 (New):**

The method in claim 31, wherein the electronic circuitry is further configured to store one or more contexts in a memory location associated with the created object and to correlate faults in objects in a distributed environment using the one or more contexts.

***EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE***

3. Claims 11-14, 18-26, 29-34, and 36-45 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art taken separately or jointly does not suggest or teach the following features.

A method or apparatus for supervising execution of a software application program comprising creating an object instance of a class; (i) storing in memory a timing information unit with timing information - or expiration time period- associated with each such created object; and removing the timing information unit when the object is completed and scanning the memory to identify any information unit associated with an object for which there no activity for time longer than a associated time period; (ii) testing the object associated with such information unit to determine whether it is active or inactive; and (iii) resetting the associated time period if it is active, or triggering an alarm if it is inactive; as recited in claims 11, 20, 22 and 31;

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An apparatus for supervising as above but comprising (iv) registering in a persistent location an object with specifying an expected expiration time indicative of the time the object is to terminate, deregistering the object when the object terminates; (v) supervising the persistent location to detect whether the object has not been deregistered after the expiration of said time; (iii) performing the test to reset said time or generating a report failure as, respectively, in (ii) and (iii) above; as recited in claim 34.

The prior art of record does not teach or suggest alone or in combination the steps (i), (ii) (iii); or steps (iv) and (v) in conjunction with (ii) and (iii).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *Conclusion*

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A Vu whose telephone number is (272) 272-3735. The examiner can normally be reached on 8AM-4:30PM/Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571)272-3719.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-3735 ( for non-official correspondence – please consult Examiner before using) or 571-273-8300 ( for official correspondence) or redirected to customer service at 571-272-3609.


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Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VAT

September 23, 2005

  
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